

REMARKS

Claims 1-22 remaining pending in the application, with claims 1, 12 and 19-22 being the independent claims. Reconsideration and further examination are respectfully requested.

In the Office Action, claims 1 and 3-22 were rejected under 35 U.S.C. § 102(b) over a portion of a publication by Harvard Graphics (Harvard Graphics); and claim 2 was rejected under § 103(a) over Harvard Graphics. Withdrawal of these rejections is respectfully requested for the following reasons.

The present invention concerns methods, apparatuses and techniques for displaying data having different statistical significances. More specifically, the data to be displayed in the present invention have been estimated, and each data point typically has its own statistical significance. As noted in the Specification, such statistical significance may be, for example, a sensitivity-based or elasticity-based measure (see page 2, lines to 7-8; page 23, lines 1-4; and page 24, lines 30-34), a standard deviation, variance, correlation coefficient, and/or any function of the foregoing (see page 26, lines 4-6).

In order to communicate these varying statistical significances to an end user, the present invention displays the data points using a display characteristic that is a function of the data points' statistical significances. Thus, for example, a graph might

be produced with each such data point being displayed at an intensity level that is a function of the statistical significance for that data point. For instance, highly significant estimates might be displayed more brightly than less significant estimates. In this way, end users often will be able to easily distinguish the more significant points from the less significant points on the provided graph.

Thus, independent claims 1, 19 and 21 are directed to the display of information, in which a plurality of data points are obtained, each such data point including an estimated statistic. A measure of the statistical significance for each such estimated statistic is obtained, and a graph of the plurality of data points is displayed. In the graph, each such data point is displayed at an intensity level that is a function of the measure of statistical significance of the estimated statistic included in the data point.

Independent claims 12, 20 and 22 are directed to display of information in which a plurality of data points are obtained, with each such data point including an estimated statistic. A measure of statistical significance for each such estimated statistic is obtained, and a graph of the plurality of data points is displayed. In the graph, a display characteristic of each such data point is a function of the measure of statistical significance of the estimated statistic included in the data point.

The foregoing combinations of features are not disclosed by the applied art. In this regard, Harvard Graphics does not disclose at least the feature of displaying a graph of data points, where a display characteristic of each such data point is a

function of the measure of statistical significance of the estimated statistic included in such data point.

On the other hand, as noted in the Office Action, Harvard Graphics shows a bar graph on page 11-33 in which actual and projected values of sales volume are displayed in different intensities. In Harvard Graphics' chart, the height of each bar represents the magnitude of the corresponding data point value and the horizontal position of the bar represents the year to which the data point pertains.

At the outset, it is noted that Harvard Graphics does not appear to say anything at all about obtaining a measure of statistical significance for any of the displayed values. In fact, statistical significance does not appear to be mentioned at all in Harvard Graphics. Moreover, the Office Action has not even alleged that this feature of the invention is present in Harvard Graphics.

Although the Office Action asserts that the height of the bars in Harvard Graphics' graph is a function of the measure of the statistical significance in the actual or projected sales, nothing in Harvard Graphics indicates that this is in fact the case. To the contrary, the label on the vertical axis of Harvard Graphics' table indicates that height is solely a function of the dollar value of sales (actual or projected) during the corresponding year.

Harvard Graphics clearly shows a bar graph in which actual data values are displayed using a different display characteristic than projected values for the same

time period. However, the present claims recite that plural data points, each including an estimated statistic, are displayed using a display characteristic that is a function of the measure of statistical significance of the estimated statistic included in such data point. In Harvard Graphics, the only estimated statistics appear to be the projected sales values, and each of these appear to be displayed at precisely the same intensity value. In fact, all of the display characteristics, other than height, for each of the projected sales bars in the Harvard Graphics graph appear to be identical. As noted above, the height of such bars appears to be based solely on the projected values and not on any statistical significances of such projected values.

For the foregoing reasons, none of claims 1, 12 or 19-22 would have been anticipated by Harvard Graphics. The other claims in the application depend from the independent claims discussed above, and are therefore believed to be allowable for at least the same reasons. In addition, each such dependent claim recites an additional feature of the invention which further distinguishes the invention from the applied art. Accordingly, the individual reconsideration of each on its own merits is respectfully requested.

For example, dependent claim 2 recites the additional feature that each data point includes an identification of an asset and a measure of a tendency of a value of the asset to change as a result of a change in a data value for an exogenous variable. The Office Action acknowledges that this feature of the invention is not disclosed by

Harvard Graphics. However, it is then asserted in the Office Action that this feature of the invention would have been obvious. The reasons for such an assertion are not entirely clear to Applicants. In this regard, as noted above, Harvard Graphics merely provides a graph in which each bar shows an actual or projected sales volume for a given year. This is not believed to have anything to do with including, within a data point, an identification of an asset and a measure of a tendency of the value of the asset to change as a result of the change in a data value for an exogenous variable. In other words, while a viewer of Harvard Graphics' entire chart might observe how sales volume varies over time, no single data point in Harvard Graphics' chart indicates a tendency of a value of an asset to change in any manner whatsoever. Accordingly, withdrawal of this rejection is respectfully requested. Alternatively, if the rejection is maintained, further clarification regarding the grounds for asserting obviousness is respectfully requested.

Dependent claim 3 depends from dependent claim 2 and recites the additional feature that the data points are displayed in a bar graph that includes a separate bar for each asset. As acknowledged in the Office Action, the graph shown in Harvard Graphics merely shows a separate bar for each year during the covered time period. Nothing in Harvard Graphics indicates that separate bars are to be utilized for different assets. For at least this additional reason, dependent claim 3 is believed to be allowable over the applied art.

Dependent claim 4 depends from dependent claim 3 and recites the additional feature that each bar is displayed at an intensity level that is a function of the measure of statistical significance of the measure of the tendency of the value of the asset corresponding to such bar to change. Once again, the only distinction in terms of intensity level in Harvard Graphics is between bars reflecting actual sales volume vs. bars reflecting projected sales volume. Nothing in Harvard Graphics even remotely indicates that an intensity level of a bar should be a function of the statistical significance of the measure of the tendency of the value of an underlying asset to change. For at least this additional reason, dependent claim 4 is believed to be allowable over the applied art.

Dependent claim 5 depends from claim 4 and recites the further feature that the height of each bar is a second function of the measure of the tendency of the value of the asset to change as a result of a change in the data value for the exogenous variable. As noted above, in Harvard Graphics the height of each bar only reflects actual or projected sales volume for a given calendar year, and has nothing whatsoever to do with tendency of an asset value to change as a result of the change in the value of any exogenous variable. For at least this additional reason, dependent claim 5 is believed to be allowable over the applied art.

Dependent claim 6 depends from claim 1 discussed above and recites the further features that the estimated statistic included in the displayed data point was

estimated using a regression equation, and the measure of statistical significance is a p value that was calculated from the regression equation. With regard to these features of the invention, the Office Action cites page 11-44 of Harvard Graphics. However, that portion of Harvard Graphics merely notes that statistical calculations can be performed on the data within a graph and that four types of regression or "best fit" curves can be used for generating a curve to graph the input data points. This portion of Harvard Graphics says nothing at all about the information included within the individual data points themselves. Similarly, this portion of Harvard Graphics says nothing at all about p values. For at least these additional reasons, dependent claim 6 is believed to be allowable over the applied art.

Dependent claims 2-6 to have been discussed above. However, it should be understood that those claims are merely exemplary. Additional distinctions could easily be made for each of the dependent claims in the application. This is because the present invention concerns statistical-significance-based display of data, while Harvard Graphics merely illustrates and discusses a bar graph in which each bar shows actual or projected sales volume for a particular calendar year. Thus, the present invention is fundamentally different from Harvard Graphics, and this difference is reflected in each of the independent and dependent claims. Accordingly, the individual reconsideration of each such claim, particularly in light of the above remarks, is respectfully requested.

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In view of the foregoing remarks, the entire application is believed to be in condition for allowance, and an indication to that effect is respectfully requested.

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Respectfully submitted,

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